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*SEX IN EDUCATION.**

WE seldom buy a new book on education without serious misgivings. We have so often found what appeared to be new, so very old, and what promised to be fresh and piquant, so dry and vapid, that we have pretty nearly lost all appetite for that kind of mental aliment. Too often after such a banquet have we found ourselves like the hungry sheep described by Milton, who

> "——— are not fed,
> But swollen with wind and the rank mist they draw."

In Dr. Clarke's book we looked for something better. The name and professional reputation of the author were a sufficient guarantee that the work would not be without significance, while the fact that it came from one who put forth no claims as an educationist gave promise, if not of new views, at least of views from a new standpoint. We have read the book carefully, and we thank the author with all our heart for writing it. Not that it is a contribution of facts before unknown; not that it deduces new laws; not that it establishes new principles in education: but because it gives definite form and expression to what, there is no doubt, lay vague and confused in many minds; because it rivets attention upon what was overlooked, and compels us to realize vividly

* Sex in Education; or a Fair Chance for the Girls. By Edward H. Clarke, M. D. Boston: James R. Osgood & Co.

the tremendous importance of what we have passed by with careless indifference. It points out with clearness and force some of the consequences of our utterly reckless disregard of certain physiological laws, and sounds a trumpet note of warning for all who are not too dull or too obstinate to hear and understand. This is a sufficient justification for the appearance of the work, and this establishes for it some claim to our earnest and thoughtful consideration.

It is fortunate for an author, and, if his book be of real value, for his readers too, when it finds the public not merely ready, but eager to listen to him. The sale of five editions within three months, the private and public discussions on every hand, and the apparently increasing interest in these discussions, show that Dr. Clarke has hit the right moment for putting forth this volume. It is doubtlful if the book would have been widely read five years ago; and five years hence it is to be hoped our eyes would have been opened, and the evils here pointed out discovered and in a fair way to be corrected.

And yet its appearance now is probably due rather to chance than to design. It was not because it was apparent that such a work would pay, but because the author's personal experience as a physician forced upon his attention the alarming increase of female maladies, and prompted him to study their cause, and, if possible, do something more to stay their wasting progress. We say that the book is eagerly read, and we have not to look far for the cause. The health of American girls and women has long been deplorably bad, and is steadily growing worse. Unless there is a radical improvement, the race seems in a fair way to die out. Within forty years there has been a decline of about twenty per cent in the proportional number of American children under fifteen, to the number of American women between the child-bearing ages of fifteen and fifty. It is probable that the proportional number of marriages among Americans has diminished ; and it is well known to physicians that *the disinclination of American girls to marriage* is rapidly increasing. Perhaps it is right that this should continue, till a new epoch begins, and there is a better chance for "the survival of the fittest."

But there has been an uneasy feeling that something should be

done, and that a beginning should be made early. But where, and how? There was the difficulty. It is not too much to say that thus far we have only guessed and groped. Perhaps the most notable outcome of our efforts has been the invention of light gymnastics, "calisthenics," for girls, not suspecting that it is more rest and not more exercise for the body that girls are likely to need. It is to this question of the cause, or of the most potent cause of the ill-health, suffering, and decline of American girls, and its relation to education intellectual and physical, hat Dr. Clarke devotes the most important part of his work.

But there is another subject which is just now claiming a great deal of attention. Every year the demand for the admission of girls to colleges established for the education of men, is growing more importunate. If Harvard persists in its refusal, it may expect before long to be summoned to answer for its contumacy at the bar of the Supreme Court. Co-education has been resolved, by a large number of those most interested in education, to be not only good, but the best for both sexes. On this matter Dr. Clarke shows that physiology has something to say, and that if we refuse to listen to her, we shall do so at our peril.

In the two essays entitled "Chiefly Physiological" and "Co-education," is contained what is most valuable in the work before us. The remainder of the book consists of an introductory part, in which the results that are reached later are anticipated in a general way; a chapter in which seven cases are described which came under the author's professional care, and which give a practical illustration of the consequences of disregarding nature's requirements in the care of that function which is the most peculiar characteristic of woman's organization; and, finally, a brief notice of the more rational care exercised in regard to the health of girls abroad, with an admirable letter on the subject from a German lady, and another from Dr. H. Hagen, of Königsburg.

If we were asked what is the fundamental proposition of "Sex in Education," we should answer that men and women are not identical. It might seem hardly necessary to devote sixty pages to the proof and illustration of a truth so obvious, and yet it is a truth so often forgotten or disregarded, that we could not well spare anything from its terse and vigorous and striking demon-

stration in the work before us. How much would not the discussion for the improvement of woman's condition be helped by a vivid apprehension of the physical differences between the sexes that are brought out in these pages. If woman would attain to the highest development of her being, she must respect her organization, and cease the attempt to assimilate herself to man. But dissimilarity does not imply inferiority.

Again: —

"Man is not superior to woman, nor woman to man. The relation of the sexes is one of equality, not of better or worse, or of higher and lower."

"No microscope has revealed any structure, fibre, or cell in the brain of man or woman, that is not common to both. No analysis or dynamometer has discovered or measured any chemical action or nerve-force that stamps either of these systems as male or female. The inference is legitimate, that intellectual power, the correlation and measure of cerebral structure and metamorphosis, is capable of equal development in both sexes."

And finally: —

"Physiology confirms the hope of the race by asserting that the loftiest heights of intellectual and spiritual vision and force are free to each sex, and accessible by each."

But physiology asserts with equal emphasis that each sex must scale the heights of knowledge in its own way and in its own time. For the one it is best that the march, however slow, should be continuous and regular; for the other, that it should be now hastened and now retarded.

In the nutritive and in the nervous system woman does not differ from man. There is the same organism and the same action; the same treatment is required, the same results are produced. But in the reproductive system the divergence is complete. Now, as bearing upon education, this divergence would have no significance in itself; but in the light of physiological facts stated by Dr. Clarke, it becomes of the utmost importance. If, as he asserts, during the few years of a girl's educational life, from fourteen to eighteen or twenty, the rapid development, in this respect, which is the law of her being, uses up twice the force that is consumed in the case of the more slowly growing boy; if in the marvellous mechanism of the one there is going on double the amount of physiological change in the destruction and creation of cells, that is taking place in the other, — change

on which life depends, nay, which is life itself,—is it not well, on the whole, to recognize a law so important in every view in our systems and methods of public instruction? Is it altogether reasonable or right to demand the same amount of brain-work during this critical period of the one sex as of the other? "The system never does two things well at the same time;" and if, while it is building up organs the most delicate, the most complex, and the most vital, you are doing your best to divert its force to the brain, you are violating reason and abusing nature, and your success will prove the measure of the penalty that will be exacted.

We do not care to follow Dr. Clarke through the long catalogue of diseases which are entailed upon women in part, or, as he maintains, in large measure, from wrong methods of education. It is enough that he has laid bare one fruitful source of terrible evils. He does not pretend that the school is alone at fault. Over and over again, with somewhat wearisome iteration, he either expressly states or obviously implies that he is pointing to but one though a very important cause of the deplorable health of American girls and women. We invite the reader to verify this statement, by referring to pages 22, 23, 25, 62, 117, 129, 130. And yet, in spite of the author's anxiety to avoid all overstatement, you will hear many persons charge him with absurd extravagance, and make him say the very thing that he rigorously refrained from saying. It is worth while to call attention to this point, because if the book fails of its just influence, it will be largely due to this kind of shallow and blundering criticism. What the author does assert, and what it seems to us he demonstrates, is that the number of those who are injured by unwise educational methods "is so large as to excite the *gravest alarm*."

But this word "method" requires a little attention, for there seems to be some confusion in its use by the author. He says:—

> "Boys must study and work in a boy's way, and girls in a girl's way. They may study the same books, and attain an equal result, but should not follow the same method. Mary can master Virgil and Euclid as well as George; but both will be dwarfed — defrauded of their rightful attainment — if both are confined to the same methods."

This seems plain enough. But when two pages farther on he explains that, —

"It is not asserted that the intellectual process which masters Juvenal, German, or chemistry, is different for the two sexes,"

We begin to doubt, and inquire what precisely is intended. Later it becomes manifest that the meaning is, that besides diminishing the relative amount of brain-work for girls during the period of rapid development of which we have spoken, there should be some remission of labor during the catamenial week, while nature is imposing a double burden. The law of periodicity must be obeyed. It was, indeed, mainly to enforce the stern necessity of obedience that this book was written; and we implore every mother, as she values the health and happiness of her daughter, to read and ponder it well.

What the consequences of persistently disregarding this law are, may be seen in the third chapter. Of the seven illustrative cases cited therein, we observe, by the way, that one is taken from the stage, and another from the counting-room. We will not curiously inquire what these may have to do with education taken even in a very comprehensive sense. We are more interested to know how far the school and college were responsible for the loss of health in the case of Miss D——, who graduated at Vassar College, and who "in all respects appeared to be well, to her companions *and to the faculty of the college.*" Also in the case cited from Dr. Fisher of the second Miss A——, who "*was a fine, healthy girl in appearance,*" till she broke down utterly. As illustrations of the frightful evils resulting from taxing the brain and neglecting the body, they are very effective; and, so far as the schoolmaster and the professor exacted their tasks in spite of known physical weakness, they deserve execration. Doubtless the author would reply, that it is the system by which such cases are possible, that he reprobates. And in this there is force. But it is difficult to conceive what system of *public* instruction can be devised that shall obviate the chief difficulty, without seriously impairing the efficiency of female education.

Something, nay, much can and should be abated of the rigor-

ous requirements in respect to attendance and lesson-getting on the part of girls. Public exhibitions, medals, prizes, and all other such "aids to emulation," should be utterly and forever abolished. Teachers must be careful and kind; and whatever flexibility can be imparted to school courses of study should by no means be neglected. But still all these things will be of little avail, if mothers do not realize that they have a serious duty to perform. With them, after all, must rest the chief responsibility. Whatever reform may be found practicable in our school system and methods, when this problem is studied, as it must be studied, it will fail of effecting a material remedy, unless it is seconded by a great increase of intelligent, motherly supervision.

We have left ourselves but little space to examine the fourth part of Dr. Clarke's work, that on Co-education. But happily little is needed. This chapter is really a corollary to the second; and, unless some error can be pointed out there, either in his premises or in his reasoning, it is childish to deny the inferences stated here. Or, to put it more exactly, either Dr. Clarke cannot be trusted as a physiologist, or you must accept his fundamental propositions in regard to the identical co-education of the sexes. What some of those propositions are, will be seen by the following:—

"Identical education, or identical co-education of the sexes, defrauds one sex or the other, or perhaps both. It defies the Roman maxim, which physiology has fully justified, *mens sana in corpore sano.* The sustained regimen, regular recitation, erect posture, daily walk, persistent exercise, and unremitted labor that toughens a boy, and makes a man of him, can only be partially applied to a girl. The regimen of intermittents, periodicity of exercise and rest, work three fourths of each month, and remission if not abstinence the other fourth, physiological interchange of the erect and reclining posture, care of the reproductive system that is the cradle of the race, all this that toughens a girl and makes a woman of her, will emasculate a lad. A combination of the two methods of education, a compromise between them, would probably yield an average result, excluding the best of both. It would give a fair chance neither to a boy nor a girl. Of all compromises, such a physiological one is the worst. It cultivates mediocrity, and cheats the future of its rightful legacy of lofty manhood and womanhood. It emasculates boys, stunts girls; makes semi-eunuchs of one sex, and agenes of the other."

We find in the style and tone of the book, much to commend and little to object to. The style is clear and vigorous, if wanting somewhat in ease and finish. One characteristic which, in a literary point of view, is a fault, we do not doubt renders the

book more effective as a whole. We mean a very frequent repetition, not merely of thoughts, but of expressions. As we read, we cannot help thinking of the schoolmaster trying to hammer a few ideas into the brains of a rather dull class of boys.

The author has throughout spoken with great but not unnecessary plainness, and seldom in a way to give any offence. It is only when he attempts to be humorous that he uses expressions that seem a little coarse or unfeeling. The book gives so many proofs of being the work of a pure, earnest, candid, sympathetic nature, that we are sure that the slight blemishes to which we allude do not spring from the heart. We need not look any further for their origin than in a certain definite sense of humor. We should like to suggest to the author that in future editions he eliminate the similes of the bath-tub and the girl yoked to a dictionary, and also a note that closes with a quotation from Virgil; not so much for the inaptness of the quotation, as for an expression that, we are obliged to say, verges too closely on the indecent.

We commend the book most heartily to every one who is interested in the great questions which it discusses, to those of our own profession, and above all to the mothers of the land. We do not accept it without some qualifications, but we cordially welcome it as a valuable aid in the solution of a most important problem.

W. C. COLLAR.

WHAT CAN BE DONE FOR THOSE WHO FALL OUT BY THE WAY?

SYSTEMS of education are common enough; indeed, like "the making of books," there is "no end" of them. New ones are continually brought forward; some of them the result of long experience and intelligent reflection, others evolved from the "inner consciousness" of somebody, whose utter ignorance of practical details is ludicrously apparent to every experienced teacher. Some of the former class will accomplish their object, as far as human imperfections will permit, provided they are followed out to the end. We think, however, that one complaint may be justly made against many of them, namely: that they do not enough

consider the case of the vast majority of scholars who never complete any course of study, but drop out along the way. We do not advance this as an original idea, but we do think it is too often neglected in the arrangement and discussion of courses of study. Now every one knows that of all the children who attend the public schools, but a very small per cent ever get as far as the high school. What is the best we can do for the great body of scholars who never receive any instruction after leaving the grammar school? Any system that fails to provide in some special manner for them is plainly defective. Could we have compulsory education, as it is understood and practised in most countries in Europe, the difficulty would, of course, disappear, as there could then be no dropping out by the way. We are afraid, however, that present indications are not favorable to the early adoption of such a system in this country. At any rate, compulsion amounts now, practically, to very little.

It is true that some programmes do not ignore the class referred to; notably our Boston programme, which, with special reference, we suppose, to the wants of these very scholars, has in its grammar school course some branches which were formerly reserved for that of the high school. As far as we have observed, however, this feature is very commonly spoken of, at least outside of educational circles, not as an excellence, but as a serious defect; and we hear quite often doleful lamentations about the "multiplication of studies" in these latter days; and men who were educated in the country sometimes give us graphic descriptions of the hardness of the benches and the general dilapidation of the old school-houses in which they learned more by "thorough" instruction in a few branches during three or four months of the year, than scholars nowadays learn, with all their extended curriculum, in ten months. It is nothing to them, apparently, that these scholars are enabled to look with intelligent interest on a hundred objects, and phenomena by which they are constantly surrounded, and of which they themselves were taught nothing at all; they could do "harder sums," and so consider themselves to have been better educated.

There is another fact which confronts us whenever we approach this subject, — a fact which is generally, and perhaps rightly,

kept in the background in this country, but which is nevertheless patent to all, namely: that a large portion of our scholars will, from the time of leaving school till the end of their lives, work ten hours a day at tasks which do not require, and will not tend to develop, much intellect. The few whose native vigor will impel them to study in spite of all obstacles may be safely left to themselves; their force of character will inevitably carry them beyond the condition of mere workmen. It is not, of course, to be supposed that any American teacher fails to impress upon his boys the blissful uncertainty that hangs over the future life of each one of them, and to point to Benjamin Franklin and Henry Wilson as examples. Still, we all know perfectly well that but few of them will ever rise above the common level, for the simple reason that most of them are in no respect wonderful, and possess only ordinary powers. Certainly, every one who has tried it knows, that for a boy who is forced to work at manual labor ten hours a day, to devote his evenings to study requires an amount of vigor and resolution that falls to the lot of but few, and such as have it will, as we have said, take care of themselves. While we would omit no effort to induce all to become students, we would consider the question, What shall we do for those who, we know, will not? As to disciplining their powers, which we are rightly told is the true object of education, there is no time for that. What can we do, then, better than to furnish them with the means of taking a little pleasure as they go along, to lighten and cheer the dull monotony of their daily life; to give them something upon which their minds may rest with interest and pleasure while they are at work, and when their work is over?

One way of doing this is to give such information as will multiply the number both of subjects and objects in which they will take an intelligent interest. For instance, the poorest boy can look when he pleases, provided it be dark and the sky be clear, at the stars. "What!" breaks out some startled teacher, "go into astronomy in the grammar school?" No, not exactly; we would not teach him to calculate eclipses or cometic periods, but suppose we tell him a little about Jupiter, — about his gigantic size, his wonderful belts, and their supposed cause; his rapid revolution on his axis, and the consequent shortness of his day;

his moons, his long year, etc. Almost any boy will be interested; some will even be induced to read about it themselves, if the teacher takes care to point out the right books. Now and then one will find an hour of toil pass more quickly because he is thinking about Jupiter; and depend upon it, not one of them but will look at him oftener and with more interest than before.

Then think of the vast field of thought, wonder, and conjecture which may be thrown open to even a young child by a little skilful teaching in natural philosophy. Explain to a boy, for instance, the steam-engine, and then watch him as he stands looking at one. His look is no longer one of open-mouthed wonder, or familiar indifference. He is making out whether "she" is a high pressure or a low pressure, and how her governor works, and wondering what would happen if her fly-wheel should burst, as his teacher has told him they sometimes do, — and trying to figure to himself how the inside of the valve box looks. Some of the tedious hours of toil will, you may be sure, be whiled away in thinking about the steam-engine.

History we believe to be one of the most efficient means of preventing a boy's mind from becoming vacant; but it must be properly taught. Washington, *the deliverer of his country*, and *first in war, first in peace, etc.*, is not an object of great interest to the average boy, but Washington scanning through his glass the works on Boston Neck, and the British army beyond, and wondering how, with his motley and ill-appointed army, he shall get them out of the city; or Washington dashing over the hill and through the flying troops up to the very muzzles of the enemy, swinging his hat, and cheering on the men at Princeton, *is* an object of interest to any boy. Let the history of the United States be taught with a judicious mingling of anecdotes like these, and many a time in his life will the laboring boy and man go over them.

We well remember one old committee-man in the country who used to quote to us, every time he spoke, the old saying — "It is better to know everything about something than something about everything." To a professor of chemistry it is doubtless better to know everything about chemistry and nothing about other sciences, than to have a little knowledge of all; but for the aver-

age man, to whom his knowledge is simply a diversion and a solace, a little insight into a good many subjects, enough to arouse his curiosity and stimulate his thoughts, is, we believe, far more conducive to the end sought than a thorough knowledge of any one would be.

G. K. D., Jr.

SHAKESPEARE IN SCHOOLS.

No apology need be offered for assuming that the study of Shakespeare ought to have a place in every scheme of high school instruction. Much might be said in favor of its adoption even in grammar schools, but the discussion of this point is from the purpose of the present paper. By the study of Shakespeare, very much more is meant than the study of disconnected extracts from his works. No one will contend that the well-known extracts from a few of Shakespeare's plays that find their way into the reading-books and compendiums can give any just idea of the author's powers as a dramatist, or of any dramatic action at all. They give but the merest glimpses of character. Extracts are but "specimen bricks," or at best, perhaps, specimen jewels, beautiful in themselves, but taken out of their settings.

There is, and always will be, a charm even to the schoolboy, in the speeches of Marc Antony and Brutus after the assassination of Cæsar. How much would their interest be enhanced by reading the whole of the play of Julius Cæsar, or at least the whole of the third act! A single careful reading of the play, even without note or comment, would so impress them with the situation that those speeches would be doubly interesting and effective. Much more impressive, too, would be Portia's "The quality of mercy," etc., if the reader realized to whom it was addressed and in what circumstances. It needs the whole Trial Scene to give it its due effect. Even the two short speeches that precede, —

> "*Por.* Then must the Jew be merciful.
> *Shy.* On what compulsion must I? tell me that,"

At once give added point to what follows.

All this is not said to disparage reading-books and compendi-

ums. They are useful in their way, and even necessary. It is only claimed that the study of literature, and particularly of dramatic literature, is not complete without the study of connected wholes in distinction from disconnected parts.

There are many reasons why Shakespeare's plays should have a more prominent place in schemes of literary instruction than the works of many other authors who have hitherto almost wholly supplanted him. First because, in the words of Coleridge, they are "works truly excellent and capable of enlarging the understanding, warming and purifying the heart, and placing in the centre of the whole being the germs of noble and manlike actions"; because Shakespeare is "the myriad-minded; our — and all men's Shakespeare;" because —

"He was not for an age, but for all time;"

Because "he stands alone in the highest niche of literary fame"; because his dramas are "confessedly the greatest classic and literary treasure of the world."

Secondly, for the very reason that they are dramas, and hence appeal to an instinct that seems to be implanted in humanity itself, — the dramatic instinct. It is true, in more senses than one, that,

"All the world 's a stage,
And all the men and women merely players."

The dramatic form attracts and rivets the attention of the reader, and impresses upon him the thoughts of the author with greater power than any other mode of writing can do. This instinct (if we are right in so calling it), or faculty, ought to be taken in charge and cultivated as other faculties are. If the best dramas were read and studied in schools, it can hardly be questioned that literary education would be much improved. Hitherto the wishy-washy dialogues of the boys' magazines and Sunday-school concerts, or dismal farces got up for an exhibition to raise a laugh and relieve the monotony of the heavy declamation, are pretty much all we have to show in the way of cultivating, this faculty.

Thirdly, because there is no better means for acquiring a correct knowledge and vigorous use of the English language.

Fourthly, since Shakespeare is pre-eminently the poet of nature, it is to Shakespeare we go for the study of nature in its human manifestations, confident that if we rightly interpret our author, we are indeed face to face with nature herself. Pope very truly says, "He is not so much an imitator as an instrument of nature; and it is not so just to say that he speaks for her, as that she speaks through him."

> "Nature herself was proud of his designs,
> And joy'd to wear the dressing of his lines."

None of these reasons for the study of Shakespeare (and many more might be given) exist in so high a degree for the study of any other English author. Objections that are sometimes urged against this study are in general so groundless and trivial, that they need not be noticed here, except that which has reference to the occasional improprieties and indecencies that mar the text of some of the plays. This objection, however, is now removed by the recent appearance of several expurgated editions of the best known plays.

Objects and Methods of Study.

There are various ways in which the study of Shakespeare may be conducted; and it is highly important that every teacher should have a definite aim before him, to which his methods of instruction must be skilfully adapted. Formerly an author was studied in school chiefly to be parsed. Paradise Lost, for example, used to be studied in parsing lessons of a few lines each, — a study of mere technical grammar, and nothing else. Latterly the tendency has been, perhaps, rather towards the philological study, — the study of words. Each of these methods has its value, but they should be used only as means to an end. A knowledge of the terminology of grammar is important and useful, in order that teacher and pupils may understand each other without circumlocutions. So of the philological study. It is interesting and profitable to study the history, derivation, and meaning of words. Some of this study is essential to the proper understanding of any author's text. It may well be made an end in itself at

some period of Shakespearian study, but not at first, and perhaps not at all in the high school course. Let the aim be rather to study character, the development of the drama, the why and wherefore of the various situations, and, in short, the thought and purpose of the author. Let other aims be subordinated to this.

To be a little more definite and particular, let us suppose a class about to begin the study of one of Shakespeare's plays. In the first place, let the pupils get as soon as possible a connected idea of the play as a whole. To this end it should be read through as quickly as the time given to each recitation will permit. Suppose one act be read at each lesson ; five lessons, accordingly, will finish the first reading. At each lesson let the teacher make brief comments as the reading advances, keeping the pupils alive to the course of the plot, and the part each actor plays. They are now making the acquaintance of the various *dramatis personæ.* If time allows, a second reading pursued in the same way and with the same general object in view would doubtless be very beneficial. Now they are prepared to go into a closer study of the text. What should be the main object in this part of the study? First, to understand the text thoroughly ; and second, to read it understandingly. The former object will require the use of such notes and explanations as the best annotated editions give. Rare and archaic forms and uses of words are to be explained; obscure and involved sentences must be analyzed. And so we might go on ; but these directions are needless to any intelligent teacher, and we will not multiply them. The second object, reading understandingly, needs to be strongly emphasized, for there is great danger that the accurate delivery of the text may be lost sight of in the study of its meaning. This mistake is frequently made. The grand test of a pupil's knowledge of the meaning of a passage should be not so much his ability to explain it as his ability to read it well. He cannot read it well if he does not understand it. If he does understand it, he can read it at least tolerably well. Setting aside all stage effects, and even such action as the public reader may indulge in, the mere pronouncing of the lines with appreciation and feeling may be looked upon as the fruit of the very best kind of training, and as indicating a knowledge of Shakespeare that it would take many a written

examination to bring out. In ignoring stage effects, and above all, stage rant and mouthing, and "sawing the air with your hand," and all that sort of thing, the expression of feeling should not be ignored. To give a natural and truthful expression to the thoughts of the author, one must in some sort transform himself into the character whose words he is reading, and into the particular mood of the occasion. King Lear calling down fearful imprecations upon his recreant daughter, or holding discourse with the angry elements; Hamlet moodily soliloquizing on death and immortality, or talking playfully with the actors, or out-ranting Laertes at Ophelia's grave; Lady Macbeth bravely urging her too reluctant husband to do the deed of blood, or pitifully bewailing in her sleep the blood-stain on her hand — what an infinite variety of vocal expression — setting aside all mere outward gesticulation — is required to read these parts naturally and truthfully! And when we think of Iago, Othello, Desdemona, and Roderigo; of Portia, Shylock, and Gobbo; of Prospero, Miranda, and Caliban; of Constance, of Rosalind, of Queen Anne, of Hermione, of Isabella; and, in fact, of every conceivable type of humanity, and every conceivable mood of thought, feeling, and passion, it may with truth be said that to know Shakespeare is to have a liberal education; and that to be able to read Shakespeare well is an accomplishment that is worth the expenditure of much time and pains to acquire. This work can, of course, be only begun in the high school; but unquestionably it should be begun there, and so far and so well carried on as to inspire the pupils with a love of Shakespeare, and induce them, if possible, to make him a fireside companion after their school days are passed. But few of the plays can be thoroughly studied in the high school course; but it is earnestly recommended that several of the best and most generally known and quoted should be read in the rapid way spoken of above, in order that pupils may know something of those characters that have a better right to live in their memories, — that are more worthy of their study, although they are mere creations of the poet's fancy, — than many of the historical personages that claim a large share of their attention in school.

BOTANY.

"Now is the time," as the almanacs say, to be making preparations for the spring Botany classes. Before the first flowers come, a few weeks of preliminary instruction are desirable in order to prepare the pupils for an intelligent study of them as they appear; and by "forcing the season" in your school-room, you can get objects for examination before they appear in the natural course of things.

A number of boxes or pots of earth should be kept in the school-room. In these plant liberally various kinds of seeds for use in the class at different stages of their growth. Beans, peas, corn, morning-glory, and onion seeds are very good for the study of germination, the cotyledons, and the young plant. Let enough be planted for each member of the class to have a specimen of each seed when it begins to sprout, and again after the radicle and plumule are pretty well advanced, reserving a few for the purpose of watching their growth all through the term.

If you forgot last season to lay in a stock of dry seed-vessels, send boys to search for them now, or as soon as the ground is clear of snow. They may find a good many on the ground or still clinging to their stems. Pupils will be much better able to study the ovaries of growing flowers if they have first seen and studied them in their full development. In fact, the study of ovaries ought to be taken up in the fall when ripened fruits are plenty and easy to get.

In the early spring, maple seeds may be found in large quantities, their cotyledons beginning to unfold and break through their coverings. Let some be gathered for use in the class, and let others remain on the ground to be watched and reported on as they progress. Sprouting acorns, too, are easily found, and are an interesting object of study. Only set the pupils to searching, and they will find a great many things that can be made available at this early period of the study.

Before specimens from the field and forest become very plenty, time may be profitably spent in laying in a little stock of book-learning. Some knowledge of the commonest technical terms, learned from the book and the illustrations in it, will save

much valuable time when you want to devote yourself chiefly to the study of the living plant.[1] It is too much the fashion to affect to despise information that is got from books and pictures, particularly in the various departments of natural history. The text-book, however, may be made a very valuable adjunct to the object-lessons, not only now, but at every stage of our study. Let it be used judiciously and no harm will follow.

Don't allow the first flowers of spring to come and go without putting in an appearance in the school-room. Violets of one species or another there will certainly be enough of, for they are very abundant; so of anemones, buttercups, marsh-marigolds, saxifrage and dandelions, and all the conspicuous flowers that grow abundantly and continue in blossom a good while. The beautiful hepaticas will all have disappeared before you are aware, unless special search be made very early.

If your pupils become enthusiastic in collecting, — and it is no difficult matter to make them so, — there will never be any lack of plants for examination in the class, but, of course, they will come without any order or system. A dozen or a score of different orders and genera may be represented in the findings of an afternoon's walk. It would be convenient for our purpose if Nature would adopt for her guidance some good manual of botany and bring forth her plants by orders and genera, one after another, according to the book; but that is not Nature's way of proceeding. A good many specimens will be brought in that are too hard for beginners to get much good from. (It will be seen that we have in mind all the time a class of beginners.) Let such specimens be passed by with brief descriptions from the teacher. There will be quite enough that can be profitably attended to.

Direct the pupils to gather individuals enough of a kind to give at least one specimen to each member of the class; provided, however, that the plant in question is found in large quan-

[1] Pictures are a great help in the study of plants. Prang's charts of Natural History, or Henslow's diagrams, are exceedingly valuable in various ways. Magnified and colored representations of what the pupils find it hard to make out in their green specimens are a great aid. In classification, too, the charts will supply many missing in s that the collections on the table fail to furnish.

tities; otherwise there is danger of exterminating some rare species. Collectors should be frequently cautioned never to pluck all the flowers of a kind in one locality.

An important object of search (mentioned above) is the ripened fruits of those plants whose ovaries do not come to maturity till long after the flowering time.

Have some simple means for drying and preserving plants, and in the course of several terms a very respectable school herbarium will be collected. A large quantity of coarse paper that will absorb moisture readily, a board, and two or three heavy stones, will serve a good purpose. For preservation, the specimens may be fastened by glue or thread or adhesive paper to the leaves of old Patent Office Reports or superannuated atlases, unless you can go to the expense of a sheet of nice white paper for each specimen.

By the end of the summer term it is to be hoped that the class will be able to describe the parts of a great many plants, and refer them to their orders and genera; that they will know a great many interesting and useful facts about plant life; and, above all, that they will have acquired or developed a love of the study, a love for plants, and a love of nature.

We are requested by one of our oldest and best teachers to copy the following from the Chicago "Teacher." We don't know his reason for this request, but if any one is hit, it is not our fault. We copy it just to oblige an old friend: —

"It is wrong for teachers in large schools to stand in knots and chat and laugh while the children are passing up and down. The example is bad; and it is, moreover, a fact, that teachers in chatting make more noise than that which they come out into the hall to prevent, would amount to."

We have received a very able and interesting article from Mr. Whitney, of the Cambridge High School, on "Agassiz as a Teacher," which we are compelled, by want of room, to postpone to our next number. Mr. W. was well acquainted with the great Professor, had worked under him, and was a student in the school at Penekese. The article will be read with much interest by all, and especially by teachers.

"Hints on Teaching English Literature," by A. T. Blaisdell, will also appear in our next.

Resident Editor's Department.

THE MASSACHUSETTS TEACHERS' ASSOCIATION.

Reported by Wm. Butler Crittender.

At the last meeting of the Massachusetts State Teachers' Association, held at Worcester, a resolution having been introduced of respect to the memory of the late Prof. Agassiz, Rev. H. F. Harrington, superintendent of schools in New Bedford, after seconding the resolution, made the following interesting and eloquent remarks: —

I should not venture, Mr. President, to say anything of such a man as Agassiz, had I not been specially requested to do so.

I knew him, only as many in this assembly knew him, — on terms of simple acquaintance. And yet to every one who had met him even once only, how near he seemed, — how like a very brother. Never lived there a human being, it seems to me, who so united the godlike in intellect with the simplicity of a little child; who so confidingly brought down that immeasurable capacity of a great nature, and put it into your keeping without reserve, so that he led you to feel almost like an equal as he stood before you; and yet how grandly he towered above us all!

Mr. President, this Association has reason to remember Prof. Agassiz reverently and affectionately, for reasons which are not known to all of you.

The last time I met him was at a meeting of gentlemen and ladies held in Boston on the first Tuesday in November. These gentlemen and ladies constitute a committee, which has existed for several years, having for its purpose the improvement of our public schools; and so devoted was Agassiz to this important object, so determined was he to lend the weight of his ability and his energies to the cause, until certain striking defects which annoyed him should be remedied, that he never failed to be present at the stated meetings of this committee when he was in the vicinity. In the month of November, as I have said, he met with us for the last time; and in response to a remark, made soon after his entrance, and expressive of gratification at his presence, he said, "I thank you. Nothing except my strong interest in the object of these meetings would have availed to bring me here. For I am very feeble, and I did not dare to come until I had been to my physician to ask permission. He gave me leave to come, on the condition that I would not open my mouth. So I am here."

But, in spite of his pledge and his sense of weakness, he could not restrain himself. He joined in the discussion as frequently and as earnestly as any; and when at length something was said in praise of the Prussian governmental "Regulativ" of 1854, by which the schools of Prussia have been controlled up to nearly the present time, he was stirred to an unwonted degree.

He rose to his feet, and with animated gesture, in that eloquent simplicity of apt and pointed expression for which he was so eminently conspicuous, he denounced the "Regulativ" as wholly unworthy of confidence. He declared it to be the offspring of tyranny, intended not to educate and develop the intellect of Prussia, but, on the contrary, to fetter and degrade it, and make it the passive slave of arbitrary power.

Doubtless the most of those whom I am addressing have listened to the public utterances of Agassiz often enough to remember with delight the exquisite eloquence of his language. I never heard him when his selection of words was choicer, his heart fuller, his gesture more emphatic and expressive, and the impression he made deeper, than on that occasion.

Before the meeting closed, after having held a few moments' private conversation with him, I expressed my regret at his description of his physical condition. "It is very true," he replied. "I have no strength, no energy whatever. I have labored through the summer when I should have been resting; and I am good for nothing. I shall have to give up my engagements to lecture; and even then I must go into my winter's work in this weak and incompetent condition."

And yet, within a fortnight of that time, he delivered an elaborate address before an agricultural society in Fitchburg, and threw himself into the labors of his beloved museum without the slightest self-indulgence, and with all the devotion of his enthusiastic spirit. No weakness, no suffering could restrain him from offering up his daily oblation at the shrine of that glorious science, which was to him such a shining divinity. In her service, he was ever ready with all his powers, both of mind and body; and he perished gloriously with his harness on.

There are those who have denounced Agassiz, in common with other conspicuous scientists, as an atheist. And yet, at the very moment when these charges have been most rife, he has been standing in the forefront of the opponents of Darwinism, because he reverently ascribed the production of the human race, in its present loftiness of capacity and attainment, to the immediate creative energy of the living God.

Those who were present at the opening of the Anderson School of Natural History on the island of Penikese, — and I know that several of them are among my hearers, — will bear testimony to the emphatic manner in which he manifested his faith in God on that occasion. It was my good fortune to be there; and, since Agassiz has been severely attacked because he did not inaugurate that undertaking with formal religious exercises, as his failure in that regard has often been cited as an indication of the atheistic and irreverent tendencies of the scientific mind, I know you will be interested in a brief description of what actually occurred.

Those who were to constitute the school landed at the wharf of the island from the little steamer which conveyed them from New Bedford; and, while the attendants were disposing of their luggage, they went to inspect their future quarters. They soon came upon the only building then erected for the use of the students, and found it but half finished, the beds crowded to-

gether in two long rows, like the beds of an extemporized hospital, the winds of heaven free to rush in through the gaping apertures where windows were sometime to be, and the sexes separated from each other only by a partition of cloth.

They were, in sea phrase, "taken all aback." A blank look of disappointment and anticipated privation took possession of their countenances; and when, in the course of half an hour, they assembled for the inaugural exercises in an old barn, in which the beams and rafters were all visible, spider-webs the only ornamentation, and the swallows, whose nests were up in all the corners, flying freely in and out, the sense of anxious foreboding was evidently intensified.

The professor entered and took his station beside the little table which had been brought in for him, and on which was only a vase of flowers. His wonderfully expressive face was lighted up with unusual intelligence and emotion. After a few simple words of greeting, uttered in a tone and with a manner so laden with a sense of the importance and promise of the occasion as at once to reassure every perplexed and sinking spirit, he said: —

"We are yet too little acquainted with each other to be able to have any one speak for us. Therefore I cannot ask any one to pray for us at this time." Then, in a sudden outburst of irrepressible emotion, he added: —

"Indeed, I could not have any other person pray for me under these circumstances. I must pray for myself! Let there be a short season of silence, while each one, for himself, is asking a blessing."

His voice grew tremulous as he went on; and, when he closed, his broad, manly breast was visibly heaving with the power of his emotions. His lips quivered, great tears fell from his eyes, and thus it was that he lifted up his soul to God for the consecration that I trust will ever rest on that enterprise so dear to his heart.

Thus did Science express its reverential dependence on the great Author of all things. I have been in many a scene where silence was impressive, but never was I more deeply thrilled than during the silence I have just described. The great man's bearing, while he raised to heaven his voiceless aspiration, tended to inspire and uplift all hearts. And when, afterwards, he said that he should make no apologies for the imperfect state of their preparations, for, after all, "never was there an attempt at original investigation begun under such admirable advantages," and then detailed some of the privations which he had personally undergone to acquire the knowledge which he hoped to impart to his scholars there, — sleeping seventy-two successive nights with only the icy glacier for his bed, he won all hearts. He removed every vestige of discontent. He filled every breast with the fire of devoted resolution, — a portion of the same enthusiasm which has led him so grandly on.

Such was Agassiz: the friend of science, the friend of American public schools; earnest in their service, and giving some of the last hours of his precious life to thought for their improvement. Well may we, my fellow-teachers, remember one who was never forgetful of us.

THE TWENTY-NINTH ANNUAL MEETING
OF THE
MASSACHUSETTS TEACHERS' ASSOCIATION

Was held at Worcester, in the Hall of the High School Building, on Walnut Street, December 29, 30, and 31.

Opening Session — Monday Evening.

The Convention was called to order at half-past seven o'clock, by the president, Albert G. Boyden, of Bridgewater; Alfred Bunker, of Boston, being recording secretary. After opening remarks from the chair, the delegates, comprising a large number of superintendents, principals, and teachers from all parts of the State, were welcomed to the hospitalities of the city by superintendent A. P. Marble.

On motion of John D. Philbrick, of Boston, a committee of three, consisting of Mr. Philbrick and William C. Collar, of Boston, and D. B. Hagar, of Salem, were appointed to consider what action is appropriate in view of the great loss sustained in the lamented death of Professor Agassiz.

On motion of M. C. Stebbins, of Springfield, a committee of three, consisting of Mr. Stebbins, B. F. Tweed, of Charlestown, and Charles Hammond, of Monson, were appointed to prepare appropriate resolutions in reference to the death of Professor William Russell.

The president suggested the propriety of presenting resolutions relating to the late Marshall Conant, former principal of Bridgewater State Normal School. The matter was referred to the last committee, and, on motion of A. P. Stone, of Springfield, the president was added to said committee.

Messrs. A. P. Marble, of Worcester, and George A. Walton, of Westfield, were chosen a committee on teachers and teachers' places.

The chair was instructed to appoint, and announce this morning, committees on resolutions, nominations, and subscriptions to the "Massachusetts Teacher."

The Rev. A. D. Mayo, of Springfield, a native of Massachusetts, but for many years a resident of Cincinnati, Ohio, distinguished for his devotion to educational interests, was then introduced, and gave an able and eloquent address on "Normal Schools and Training Schools and their Graduates." After allusion to numerous statistics given in the last annual report of the State Board of Education, to show the necessity of skilled labor in school-teaching, Mr. Mayo said there are four State Normal Schools now in our State, with an attendance, in 1872, of six hundred and eighty students and one hundred and sixty-one graduates. When we consider that a portion of the superior young women among those graduates leave the State, that others are soon carried off into private schools, and that the destiny of woman in the school-room in Massachusetts is fixed, at the end of four years, we are left with the impression that, even with the added help of a few city training schools, and a vigorous system of school institutes, the great mass of our teachers are almost destitute of any professional training that deserves the name. Is it, then, he asked, too much to say that the central point of educational interest, even in this enlightened Commonwealth, to-day, is *skilled labor in the school-room?* Indeed, next to the moral and religious status of the people, this is now the paramount American interest. All progress in the national common school now hinges upon a more efficient method of training the young women, who, for many years to come, must be the teachers therein. All our other improvements amount to nothing until we can place at the centre of all our machinery for school instruction a body of teachers competent to handle it. If we expect to verify the superiority we now claim for the common school before the whole people, we must bestir ourselves at once in a wholesome reconstruction and expansion of our methods of training, especially the

young women of the State, for the noble profession of teaching. The speaker thought the wisest and most successful of our principals in the Normal and Training Schools of the State would agree with him, that our present system of supplying trained teachers is becoming every year more unsatisfactory. It would certainly seem that if only six hundred and eighty students (not half the number of the undergraduates in some American colleges) are admitted yearly to our four State Normal Schools, they should be subjected to a more severe examination, and a far better preparation. The weak point is, he thinks, that, spite of themselves, these excellent schools are far more academical than professional institutions. He thought it time that the provisional character of our State Normal Schools should be changed to a type more severely and strictly professional. Surely, from the one hundred and eighty-one high schools, and four hundred and twenty-eight academies of the State, a class of young women can be found competent to face a severe examination for admission to normal schools, that shall be really universities of teachers. He believed that, with the number of pupils, thoroughly trained, these schools would do more valuable service than now. We must abandon the hope of furnishing a large body of teachers for common schools from those State institutions. But they may aspire to elevate the whole professional teaching class by the production of a body of highly accomplished teachers, capable of handling training schools and doing valuable work in the highest department of instruction. Every graduate of this description would become a power for reform. The American city training school is the most admirable result of our native genius in educational affairs, and is capable at once of furnishing the schools of all cities and large villages with a greatly improved class of teachers. By a generous system of admission from the country adjacent to our city and town high schools, their usefulness can be greatly enlarged; and by a wise handling of the School Institute, we may hope, in time, to reach and make an impression upon this dissolving view of 8,000 common school teachers of the Commonwealth.

Mr. Mayo said the first element in every training school for young women is womanly enthusiasm for the profession. He thought that whoever takes away a training school for primary and grammar teachers from the motherly and sisterly charge of a competent lady principal and her group of critic teachers, destroys the soul of the institution, bungles the work in its point, and produces essentially another style of graduate. And may God help any school, he said, normal or otherwise, that is laced up in the stays of our new masculine theories of materialistic "secular" culture. These theories all have one common characteristic; they ignore the whole spiritual side of human nature; that contact with God and the world of souls, without which our contact with physical nature is very like one stone lying upon another. There was no reason, he said, why the graduate of the normal school should not grow more healthy, wise, genial, practical, powerful, and thoroughly charming every year of her life; and, when she is called to woman's common destiny in the home and society, she enters it from a vantage-ground she need never lose. No profession has furnished so many first-rate women to society and domestic station in America as school teaching. What may we not hope, in the future, for the enriching of the American home, for the building up of every precious interest of national life, from groups of women like the superior graduates of our best normal and training schools? The State can well afford to give them this education and experience, in view of their future services to American society in the common relations of life. The speaker closed by an eloquent allusion to the happy influences which had arisen from the teachings and efforts of the multitudes of female teachers who, during the last thirty-five years, had gone out from New England to the great West, where he himself had been located after a boyhood and youth passed amid the common schools of the heart of this old Commonwealth, — happily contrasting the past with the present state of things, and trusting for more advanced results

in the future, by a more progressive and advanced method of instruction in he proper training of the lady teacher for her work.

After the delivery of Mr. Mayo's address, which was listened to with the greatest interest, remarks commending it, and favoring the training of female teachers as the most efficient instructors of our youth, were made by Messrs. Philbrick, of Boston; Marble, of Worcester; A. P. Stone, of Springfield, and others.

Mr. Philbrick announced the presence in the Convention of Mrs. Ware, a delegate from the Woman's Educational Association of Boston, and, by vote of the Association, she was invited to participate in the discussions of the meeting.

Tuesday Morning.

Rev. Mr. Wood, of Campello, opened the session with prayer.

Mayor Jillson, in a brief and pertinent address, said: "You have assembled on this beautiful winter morning to forward a great work. Your efforts need to be crystallized into law. Our statute books are filled with laws forbidding men to do this and that, but there is not one word to compel men and women to become intelligent. We must have compulsory education." The Mayor closed with a cordial welcome to the hospitalities of the city.

The president returned the thanks of the Association for the Mayor's welcome, and announced the following committees: —

"The Massachusetts Teacher" — H. F. Howard, of Newton.

On Resolutions — Granville B. Putnam, of Boston; George A. Walton, of Westfield, and Edward I. Comins, of Worcester.

On Nominations — A. P. Stone, of Springfield, and thirteen others, one for each county.

Discussion.

A discussion was then commenced on the subject, "Would the interests of education be promoted by increasing the relative number of male teachers in our public schools?" introduced by A. P. Stone, Esq., superintendent of public schools of Springfield, who took the affirmative. He said, among other things, that the fact that women can teach primary schools better than men, is granted. There are schools which men can teach better than women. He advocated the services of both in shaping the moral and intellectual character of pupils, just as the influence of both father and mother are needed in bringing up a family of children.

Mr. Allen, of West Newton, said the proportion of male to that of female teachers is too small, and a change should now begin to be the other way, and gentlemen should come in and occupy many of the places held by women, because nineteen out of twenty young women who enter into the occupation of teaching do not do so with a view of making it a life-work. They do not study, he thought, with the view of rising higher and higher. The truth being that women intend to teach but a comparatively short time, they do not therefore prepare themselves to teach in the high schools. Every girl should come directly in contact with the mind and character of a competent gentleman teacher, and boys are very much softened by the influence of a lady teacher. Throughout our district schools, the idea that there is not money enough to employ gentlemen teachers should be dispelled.

Mr. William Collar, of Boston, said there should be an increase in the number of male teachers, because of the short time the young women teachers continue in service. The time devoted to preparing their minds and hearts for teaching is much too short. Another reason is, that women are less devoted and earnest as teachers than men, owing to the short time they intend to remain in that service. Women have less learning than men and less time to learn, one reason being the time they necessarily have to devote to sewing. Women have less nervous energy and physical force. It might at first seem that the increased expenditure that would be necessitated by the

employment of more men would be an objection. But this, he maintained, was a mistake. The history of education in Connecticut proved this. There, through the efforts of Mr. Philbrick, to whom that State should be everlastingly grateful, a law was passed obliging towns to levy a tax to support the common schools, and a revolution was wrought in public education. Interest succeeded to apathy, and to-day the schools of Connecticut will compare favorably with those of other New-England States.

Mr. Hagar, of Salem, said lady teachers who get married would fail to do their duty if they did not If the schools are to be raised to the highest standard, they should have at their head those who intend to make it a business for life. Let as many as possible who teach in the schools be trained as well as possible, and then be under the direction of a head who will make it a business. He thought women teachers, as far as he knew, are as earnest as men are. Mr. Collar's point, that women have to devote much time in sewing, he met by saying that the reason men do not do the same is, that they do not know how, and if they did, they would not do it, because they are paid enough to get it done for them. Women should be paid more for their services as teachers, and should be afforded every opportunity to acquire education. The cases are just as frequent in which men commence to teach with no idea of continuing to do so through life, as those in which women do.

Mrs. Walton, of Westfield, said that women are not asked to take the higher positions. They are, by every means, thrust aside, and this is the case with the school committee in Boston, to which now three ladies belong; every attempt is made to thrust them aside. She said if men had to make their own shirts and pants and coats, and on Saturday iron their collars, they would not have much time to devote to studying.

Mr. Hill, of Lynn, thought that not enough time is spent by ladies in disciplining themselves for teaching.

Mr. Jones, of Boston, was opposed to the plan of increasing the number of men and decreasing the number of women teachers He stated instances where women remain in service as long as men, and are as efficient. The trouble is, that women's salary is not large enough — not as large as men's; but when their salary is as large, they will be encouraged to fit themselves more thoroughly, and be contented to remain in the business of teaching as long as men.

"America" was then sung, and a brief recess taken, after which a lecture was given by John D. Philbrick, LL. D., of Boston, on the subject of "Foreign Education."

In commencing, the speaker was glad to know that nowadays there was more liberality in receiving and adopting the good features of the educational system as found in the despotic governments of Europe. Once, Horace Mann was attacked by teachers for saying that the school system of Prussia was one of merit. Our citizens are too apt to believe that our educational system must be of American growth, of a nature peculiar to itself, and that we may import anything except what pertains to an educational system. They forget that science and the powers of the mind are the same on one side of the water as on the other.

The speaker proposed to compare the educational system of Massachusetts with foreign systems, but declined to make any sweeping criticism of our State system, as there were points in it which she had no superior. The award given to Massachusetts at the Vienna Exposition, for her collection of educational statistics, might have gone to any other State, if such State had taken pains to collect what Massachusetts did. The free school system, not only for elementary, but for middle and higher education, is peculiar to Massachusetts; and she gave to Austria the example which made that country first in Europe to present the free school system. In the amount paid for popular education, Massachusetts stands before all. In this and the sister States of the Union, the revenue which, in foreign countries, sustains standing armies,

is given to the schools. But the money so liberally poured out for education in Massachusetts brings less satisfactory results than in other countries. Elsewhere, they have learned to economize their means, and in foreign countries one dollar goes as far as five in this State. The educational laws of Massachusetts are disjointed, imperfect, and, in many respects, useless. A thorough, radical, and complete revolution in the system of education is needed.

In examining the foreign sytems of education, what is particularly remarkable is, that the science of education, or what is called in the German "pedagogy," is carefully studied. It includes a consideration of the whole field of knowledge, with a view to what selections should be made in the limited time allowed for school education. It includes questions in regard to gradation, classification, and management of schools. In short, the consideration and study of every question, high or low, great and small, that regards the education of the human mind in all persons. On this subject, extensive historical works, giving descriptions of experiments tried, have been written, and in Prussia, seventy-four periodicals are published in the interests of "pedagogy." On this study of the science of education rests the secret of Prussia's superiority in education. For years no one has ventured an opinion on educational topics until he has known what is the practice in Prussia. Massachusetts can retain a similarly high rank in education only by studying "pedagogy." In the State we have only one educational publication, which has barely lived for twenty-five years, and now not one teacher in ten reads it.

Massachusetts has splendid teachers and great liberality, but no systematic organization of education; and until in theory and practice she possesses it, we ought not to be content with our system. As Austria received our lesson on the free school system, so we should conquer our prejudices and go to despotic, bigoted Austria for a lesson in organizing our school system. In Prussia the educational ordinances instruct what is to be studied in each grade, as well as define what are are the different grades. In Massachusetts, it is not so, and there is no law to tell us what a high school is. There is no way to ascertain whether the schools are conducted as they should be, with the exception that towns are obliged to certify that their schools are kept six months in the year in order to receive their proportion of the State school fund. We don't know whether our teachers are qualified, or whether the studies are taught as they should be. Notwithstanding the liberality of our State, the system of supporting schools is very defective. The towns are taxed and then allowed to carry on the schools as they wish. The subdivisions of the State should contribute in money to the support of State schools, and watch their progress and management. Compulsory education is an established thing, but where are the officers who dare execute the law compelling the attendance at schools? Officials tell us the people would not stand it, which means, in other words, they have not the pluck to execute.

In the education of teachers, Massachusetts is behind. She should adopt some means of preparing teachers; some means of testing their qualification, honesty, and preparation; some means for their proper payment; some means for their proper treatment; and some means for the proper supervision of teachers and scholars. A teacher should have some status in society. Massachusetts in thirty years has added but one to the number of her schools for the preparation of teachers, making the number now four. The schools have, it is true, been enlarged and improved, but now they do not turn out one tenth of the number of teachers needed. Austria boasts 59 normal schools, with 581 teachers and 3,500 pupils; Prussia, 62, with 3,614 pupils; Saxony, 13; Baden, 3; Belgium, 30; Bavaria, 10; Spain, 57; France, 172, not all, however, being in complete operation; and Wurtemburg, not much larger than Massachusetts, 10. In normal schools of Prussia, Austria, and Saxony the teachers are taught what they will teach. They are taught the elementary branches also.

In school-house architecture, we can bear no comparison to many foreign countries. In constructing their school-houses they don't take the opinion of an upstart architect, backed by some building committee who never saw a school-house away from their own town. They have the official architect and engineer, with eminent pedigogists, who determine what is necessary, and then they construct it.

This address closed the morning session.

Tuesday Afternoon.

For the afternoon the Association was divided into three sections. The outline of work in each was as follows: —

PRIMARY SECTION.

In this department, the president, Mr. A. P. Marble, of Worcester, in opening the meeting, spoke as follows: —

Ladies and Gentlemen, — It gives me great pleasure to be called upon to preside over the deliberations of this department of the Association. This is the strategical point of all educational reform and progress. Poor work here cannot be remedied, though of course some of the defects may be partially covered by good teaching farther on. Good work here will do much to put life into poor teaching in the higher grades; for the awakened intelligence of children will ask and demand from their instructors intelligent teaching. A bright child, accustomed to real knowledge, will not be satisfied with the new form and semblance of knowledge. When the sham is palmed off upon him for the real, he makes his dissatisfaction felt; and the bright but instructed teacher seeks for him the more substantial food.

The importance of the primary schools is now generally admitted. A person is at once declared to be in the dark about schools who expresses the opinion, once so prevalent, that "any one can teach a primary school." But yet few fully realize the importance of these schools after all. For two reasons they demand a very large share of the attention of educators.

I. Nearly 50 per cent of all the children in our graded schools are in the primary schools. Nearly half our population receive no other instruction than the little they may get in these schools.

II. Those who go on to the higher grades of schools have received, in the primaries, the fundamental ideas — the habits of thought, either the mere respectivity of indolent inaction or the activity of intelligent investigation — which will characterize their future school days.

On the first of these points, Worcester may, perhaps, be taken as a fair representative of the other cities and larger towns of the Commonwealth in which there are graded schools. Of all pupils in our graded schools, last year (1873), 46 per cent are in grades I, II, III, the first three years of school. The average of all these is 7 years and 10 months; the average of those in the highest of these grades is only 9 years and 4 months. At an average age of 9 years and 4 months, then, nearly half of the children of Worcester leave school.

It is unnecessary to state that what is done in those three years is of vast importance.

On the second of my two points, the necessity of right habits of study, little need be said. Whether a boy gets the idea in his first years of school that he is to play the part of jug, into which some one is to be constantly pouring, or the idea that he is in school for the sake of learning how to use his mind; which of the two, is enough to determine the whole character of the future man. To recite from memory, table after table, and an almost endless string of facts, and to repeat *memoriter* the primer and the first reader from painfully quiet seats, may do for the pupils of some one who can "keep a school." To develop the minds of children so that every effort will increase the power to make new efforts, this is quite a different thing. It is what we come here to discuss.

To till a field, one must be in the field. To cultivate a mind, you must act upon the mind. Mere bodily presence is not sufficient. How to get the attention and keep it, and how to control the attention unanimously, as by volition only you guide the motions of your body. This is a great art in any school, and especially in a primary school. It is the key-note to all good teaching; it includes the whole question of discipline. If you control the children's minds, the bodies will take care of themselves.

What to study in these schools is an inseparable part of how to study, or how to make pupils attend.

The first question — "Necessity and means of securing attention" — was opened by Mr. E. Brookings, of Springfield, who considered attention necessary for the following reasons: Because of the demands made, or which ought to be made, to do a given amount of work; because the time of the teacher should be devoted to one grade or class, or the least possible number of grades; and because a failure to secure attention is demoralizing to the child. An opinion that the capacity of securing attention is a kind of magnetism possessed by but few, is false. Thorough preparation in each lesson, and the presentation of real objects, are among the means of securing attention. Failure is impossible where conscientious preparation is made. Frequent consultation and discussion among teachers as to the manner of presenting topics is at least an indication of success. Oral instruction should be conversation with pupils. Oral instruction will do much to kindle the child's desire for knowledge, and secure his attention. Make the school more attractive, so that the pupil cannot and will not stay away. A heart full of interest for the pupil, a cheerful, sympathizing spirit, in all we say and do for the children, are not to be overlooked in the means of securing attention.

The discussion was continued by several others.

The second question was, "Course of study in primary schools." Opened by Mr. Harrington, of New Bedford, who believed that if a manual of a course of study was used, it should give only the minimum of what was required, and the teacher should have the greatest liberty in selecting and in the manner of instructing. Primary teachers should remember that our character is the greatest educator, and, besides, should give great attention to developing the power of language. Others continued the discussion.

GRAMMAR SCHOOL SECTION.

The topic discussed in this department was, "How can a better knowledge of Arithmetic be gained in less time than is now given to the subject in our public schools?"

The subject was introduced by Mr. G. A. Walton, of Westfield, who said that, as in all study, the object will be most speedily reached by adapting the teaching to the natural development of the mind.

The teaching of arithmetic in primary schools should be limited to the facts of numbers. Numbers should be presented to the pupils by presenting sensible objects. When a new number is presented, its name and the figure representing it should be given, and the pupils should be taught to make the figure upon the board and upon the slate. All the elementary combinations of two numbers each should be taught.

The exercises to be especially emphasized are, counting with the numeral frame and the addition of the single column. Much would be gained by relying upon the eye, instead of depending so exclusively, as is done, upon the ear. It is more important that the pupils see, than that they say. It is a waste of time to read to young people problems, and require them to repeat them and then solve them. Definitions and rules should not be required in primary schools; the terms units, tens, hundreds, etc., may be used.

In the second grade of schools, units and numbers, integral, fractional, and compound, and the fundamental process applied to each class, should be illustrated and defined. The operations for the processes should be analyzed,

and rules stated in accordance with the analysis. Each process should have but one definition and rule. In this department, arithmetic should be limited to United States money and percentage. The exercises must be calculated not to puzzle or overtax the mind.

In the High School, arithmetic should be studied as a science, and a definition of arithmetic given which will present the subject as a whole. Rates and proportion, the roots and progressions, will be treated in connection with algebra, and many of the problems in mensuration in connection with geometry.

With such a distribution of the parts of the subject, the time now given to the study of arithmetic can be much abridged.

D. B. Hagar, of Salem, continued: "We should make use of the objective system in teaching so far as to make the pupil understand why such a combination should bring the required result, and only so far. To save time in the acquisition of arithmetic, mental arithmetic should be laid aside. Colburn's arithmetic has done more harm than good. The nicety and accuracy of definition and reasoning may be done away with. Definitions should be the result of growth. Let the process be understood, and the rule will be learned in half the time, and will be retained forever in their minds. Problems that are not of practical use should be left until a late period of our studies. Circulating decimals, algebra, and many other impracticable processes in arithmetic, should be placed in the appendix rather than in any other part."

The second question, — "How can the power of expression be developed in pupils?" was opened by Mr. J. W. Dickinson, of Westfield.

The act of comparing two objects is, thinking. The mind cannot begin its acts of thinking without having a comparison of objects. Study for clear ideas. We cannot think without language. When the mind thinks so as to make clear distinctions between objects of thoughts, then a person thinks distinctly. Facility of expression also requires a good knowledge of language. Exercises at school should be such as to admit of the pupil's making use of oral expressions. Facility of expression will keep pace with our power of thinking.

Larkin Dunton, of Boston, continued the discussion. Impression should precede expression. The power of expression will be developed in proportion to the power of thinking. The silent moulding influences of reading a good book leaves its mark upon the child's face. If we are to make good thinkers and speakers of our pupils, we must allow them freedom in the expression of their thoughts. The school-room is often made the place of suppression rather than expression. Give your pupils freedom of expression in the earliest stages of their studies, and keep it up to the day of their graduation. Let knowledge be connected directly with expression. This gives the pupil the power of clear description. Too much power is attributed to the influence of grammar in developing in the pupil the ability of unity and speaking correctly. Much power is due the drilling into the mind of the pupil the practice of daily making use of oral expressions in the conveyance of their thoughts. It would be useless to try to make an infant walk by teaching him the principles of physiology. Constant practice in the use of oral expressions, from the earliest to the latest stages of our education, is the foundation of our power of expression.

HIGH SCHOOL SECTION.

The first discussion was introduced by Rev. John Bascom, of Williams College, who read a paper on the subject, "How shall the demand for the higher education of girls be met?" The opening portion of the paper was a logical plea for the necessity of co-education. He then referred to the common objection, that young women require a different course of instruction from young men. This simply means, that women may, with advantage, know less than men. A different education means a poorer one and less suffi-

cient. Nature will settle every point of controversy between man and woman, but she can only settle them as we give to her the opportunity, and let her do what she can do; she will not do more than God has constituted her to do.

The true training of social status between men and women is, equality of opportunities both in getting and using knowledge.

As an objection to co-education, it is often urged that the interest of morality will not allow it. If that were true, it might be a question who should be dismissed, the moral young women or the immoral young men? It is not true, however. The experiment of education is morally safe, as has been repeatedly demonstrated. It is urged, too, that girls are not physically able to bear the training of a college course. Experience does not show this to be the fact. The speaker said, if some girls have, and some have not, physical force enough to bear the fatigue of a college course, there is no reason why a course of such elasticity as to suit itself to variable strength should not be adopted. He advocated reform in relation to the dress of girls, as enough natural force is now expended on dress to meet the strain of a college course.

Professor Thompson, of Worcester, said what is wanted is not to declaim or rant, but to collate the facts upon the subject. President Eliot, he said, has made a careful collation and statement of the facts, which he presented before a meeting of women some time since, and was so treated by them that, in self-respect, he was obliged to withdraw from the meeting. With but one or two exceptions, this collation and statement is all that has been published which throws any light on the subject. The late letter of Colonel Higginson, relative to Vassar College, in the "Independent," did not throw any light other than was before shed on the institution and its results. Not a new fact was given, and this article is a good illustration of how much may be said on the subject which means nothing. The only way is to make examination and research from which to arrive at a conclusion.

Brief remarks were made by others, after which Samuel Eliott, LL. D., of Boston, spoke upon the question, "Should the education of girls in our High schools be identical with that of boys, in subjects, methods, and extent?" He said the high schools for girls labor under the disadvantage that they have not been so long established and have not the same support of tradition as high schools for boys. High schools for boys find it easy to introduce improvements which high schools for girls do not find it easy to introduce. The quality of the education of girls should not be inferior to that of boys. If they have not as wide or as deep intellect (though this may well be questioned), they are all the more entitled to the best quality of training that can be given. The common impediment to a thorough education of girls in the high school is, the impatience of girls to leave school almost before they have begun. The remedy is not to increase studies, but to study in a more thorough manner what studies they undertake.

Miss Johnson, of the Framingham Normal School, said one reason why girls do not pursue a higher course of study is that the money question comes in.

Mrs. Ware, of the Woman's Educational Society of Boston, said she had wondered why girls feel too proud to take advantage of offers of assistance from persons who are willing to aid them through the higher courses; to which question Miss Johnson answered, that often girls are expected to go to work at the conclusion of the usual course, in order to repay expenses already borne by them.

Mrs. Martin, of Boston, thought, in the primary grades, girls should not be kept behind boys of the same age.

Rev. Dr. Mayo, of Springfield, said: "Our reform must begin in this State with the primary schools. Hitherto, our attention has been given to the higher schools. There are elsewhere no such high schools as we have in Massachusetts and other New England States; but the Western States have much better primary schools."

In relation to the statement that there is no career open to girls, he said: "Perhaps there is not a fair chance in the cities of Massachusetts. It is not so out West."

In San Francisco, and even in St. Louis, men cannot be induced to go into schools. In Cleveland, Ohio, there is not one male principal of a grammar school.

In Cincinnati, there is only one man in any of the grammar schools. The salaries of ladies average much higher in the Western States than in New England.

Mr. Groce, of Peabody, expressed regret that Dr. Eliot omitted to say something upon the subjects that should be pursued by boys and girls respectively.

Mrs. Martin, of Boston, would have the teaching for girls quite as accurate as for boys, and would give them an opportunity to pursue the classics of a full preparatory course for college.

Mr. Harrington, of New Bedford, said: "If ladies are to take the places of men in teaching, they must take the same studies. Our great difficulty arises from want of culture in teachers."

Mr. H. R. Greene, of Worcester, said: "The great majority of girls are not being educated for teaching, but for homes. Girls should have more language and less mathematics."

Tuesday Evening.

It was expected that this session would be mainly occupied by Joseph White, LL. D., Secretary of the Massachusetts Board of Education, in discussing the half-mill school fund. But at the opening of the meeting, the president announced that a telegram had been received from Dr. White, stating that he was prevented from coming by sickness.

The reports of the committees on Resolutions were then called for, and M. C. Stebbins, of Springfield, presented the following: —

Resolved, That the late Prof. William Russell, of Lancaster, by the rare combination of qualities that pre-eminently characterized him as a Christian gentleman, by his quick and loyal sympathy with all true friends of educational progress, by the generous cordiality with which he always lent a helping hand in every effort to advance the cause of education, by the clearness and correctness of his theories of teaching and his consummate skill in their practical realization, has earned the grateful and lasting remembrance of all earnest educators.

Resolved, That in his death, this Association recognizes the loss of one of its sincerest, most devoted, efficient, and esteemed members; and that we honor his memory, and highly value the worth of his noble example, as an imperishable legacy to the cause in which his life was spent.

In presenting these resolutions, Mr. Stebbins said: —

"It is difficult to express in words my high appreciation of this noble man. It was my great privilege to know him somewhat intimately during the later years of his life, and I can never recall his features without having awakened the deepest love and the profoundest veneration. He was a noble specimen of the noble Scotch race.

"His rare natural endowments were perfected by the most diligent and scholarly culture. He was a true gentleman. To be with him was to live in a genial atmosphere of refinement. His heart was full of kindness and goodwill,— a stranger to jealousy. Every effort to improve methods of teaching, and raise the profession of teaching to a higher level, found in him an earnest helper.

"He was remarkable for his power to kindle the purest aspirations and a lasting enthusiasm in those who came under his teaching. Few educators have ever been so ardently loved by so many of their pupils. This tribute was

richly deserved, for he took great pains to keep up his correspondence with them, and to manifest his constant interest in all their successes.

"As teachers, we cannot place too high an estimate upon the work which was the result of a life loyally devoted to education, and upon his example, which was one of unsurpassed purity and holiness."

Prof. Tweed, of Charlestown, briefly spoke of some distinguishing traits in the character of Prof. Russell. The resolutions were then unanimously adopted.

In the absence of J. D. Philbrick, the resolutions drafted by him relative to the death of Prof. Agassiz, were presented by W. C. Collar, of Boston, but at his request were read by the secretary, Mr. Bunker.

Resolved, That as an association of teachers, we would enter upon our records of the present meeting some expression of our sense of the irreparable loss which the cause of science and education has sustained in the death of that great scientist, teacher, and great and good man, Professor Louis Agassiz.

Resolved, That by his devoted, successful labors in cultivating and diffusing natural science in this community, Professor Agassiz has justly earned a title to our love and adoration.

Resolved, That as a sincere and earnest friend of popular education, as an ardent, sympathetic friend of teachers, and as being himself a great and true teacher during his whole life, Professor Agassiz deserves to be held in honored remembrance by this Association, of which he was a member."

Mr. Collar, of Boston, then spoke upon the resolutions. He said it is hard to realize that within a few days the grave has closed over one of the greatest men and greatest teachers of this century; and while thousands who never saw him are mourning an irreparable loss, it is surely fitting that we should try to give some utterance to a more personal sorrow for a loved and honored associate. In the death of Agassiz, science mourns the loss of a favorite son, the world a friend, and we a brother. Brother, we may call him, for by that name would he, I believe, most love to be remembered and spoken of by us, and such indeed did he recognize himself to be, and make us feel that he was, less from official connection, to which, notwithstanding, we shall always point with pride, than from that active helpfulness and that strong sympathy which he manifested for us as co-workers, however humble, in the same field with himself. No words of mine could worthily commemorate his genius, his great learning, his eloquence, the simplicity of his manners, and the beauty and nobleness of his life. All this the world knows and will not suffer to be forgotten. But perhaps we who have associated with him as a fellow-teacher, have been not less impressed by his love of knowledge, his delight in imparting knowledge, his enthusiasm, and his self-forgetfulness. At least such were the qualities of our great friend, that we should especially cherish and keep green in our memories. Here we must look for the secret of his incomparable power as a teacher. Every time we heard Agassiz, we learned anew that great lesson for teachers, that if we would inspire our pupils with a love of learning, we must love learning ourselves; that for the teacher, above most others, is knowledge power; and that knowledge, kindled by enthusiasm, is irresistible. But greater than his enthusiasm was his self-forgetfulness and utter devotion to science. This was the foundation of his greatness and his success. Alas! alas! that it should also have proved the cause of his untimely death. He had climbed Alpine heights of knowledge, but science still beckoned him on, and, unmindful of weariness and weakness, he would not rest until it was too late.

"Oh what a noble heart was here undone
When science 'self destroyed her favorite son.
Yes, she too much indulged thy fond pursuit;
She sowed the seeds, but death has reaped the fruit.
'T was thine own genius gave the final blow,
And helped to plant the wound that laid thee low."

Mr. Collar was followed by Mr. Harrington, of New Bedford, who spoke of the interest which Prof. Agassiz had always felt in the success of the grammar schools. His remarks will be found in a separate article.

The resolutions were unanimously adopted by a rising vote.

It was then voted to take up for discussion the subject of "Foreign Education," which had been the subject of Mr. Philbrick's address in the forenoon. Mr. Hammond, of Monson, was afraid that our admiration for foreign educational systems would be carried too far. There was much to be deplored in the tendency towards despotic power of the Prussian system. He thought that a handsome architectural effort in school buildings was not so much to be desired as some other things. In our imitation of the foreign system, we need to act upon the electic plan.

Mr. Harrington followed in a very similar strain. He thought the building of expensive edifices for school-houses could only be sustained when no poor child was inconvenienced by the difficulty of distance, or when no mechanical aids to teaching were sacrificed. He went on to advocate object-teaching in the strongest terms.

Mr. Collar did not think that Dr. Philbrick, in his address of the forenoon, had advocated an imitation of the Prussian system in regard to the school-houses. But for himself, he placed a very high value upon the use of beauty in school-houses as an element of education. The beautiful was of the utmost importance in moulding the minds of the young.

Mr. Hammond replied, that ours was a new country, and that it was hardly time yet to attend to this matter of architectural beauty, while so many other important things were neglected.

The remainder of the evening was occupied with an address by George T. Angell, president of the Boston Society for the Prevention of Cruelty to Animals. Taking as a basis for his remarks the proven fact, that the presence of diseased meat in our markets was largely due to the cruelty perpetrated upon the defenceless creatures by men, he appealed to the teachers before him to use their mighty influence with their pupils on the side of the humane treatment of the brute creation.

Wednesday Morning.

This forenoon's session was opened at half-past nine o'clock, with prayer by the Rev. A. H. Coolidge, of Leicester. The report of the Committee on Nominations was then made and accepted, constituting the following Board of Officers of the Massachusetts Teachers' Association for the year ensuing, who were unanimously elected: —

President — Albert G. Boyden, of Bridgewater.

Vice-Presidents — Milan C. Stebbins, of Springfield; Albert P. Marble, of Worcester; Sarah J. Baker, of Boston; Charles Hutchins, of Boston; Charles P. Rugg, of New Bedford; Nathaniel T. Allen, of West Newton; Edward I. Comins, of Worcester; M. Isabella Hanson, of Newton; William C. Collar, of Boston; James S. Barrel, of Lawrence; W. E. Eaton, of Charlestown; A. K. Slade, of Fall River; Alfred B. Miller, of Pittsfield; A. E. Gibbs, of Westfield.

Recording Secretary — Alfred Bunker, of Boston.

Assistant Recording Secretaries — Henry F. Howard, of Newton; Simeon J. Dunbar, of Arlington.

Corresponding Secretary — E. Bently Young, of Boston.

Treasurer — William F. Bradbury, of Cambridge.

Councillors — Charles Hammond, of Monson; Daniel B. Hagar, of Salem; John W. Dickinson, of Westfield; John P. Payson, of Chelsea; A. P. Stone, of Springfield; Rebecca A. Sheldon, of Springfield; Charles Morrill, of Lowell; Frank A. Hill, of Chelsea; E. A. Hubbard, of Fitchburg; Byron

Groce, of Peabody; David Bentley, of Brookline; W. W. Spaulding, of Adams.

The treasurer, William F. Bradbury, of Cambridge, showed the receipts of the past year to be $1,584.41, and disbursements $1,543.62, leaving a balance of $40.82 in the treasury. This latter sum is already augmented by the receipt of fees from nearly one hundred new members who have joined the Association during these sessions. A resolution in tribute to the memory of the late Marshall Conant, second principal of the Bridgewater Normal School, was adopted.

A Discussion

On the subject, "Are the pupils of our public schools overworked?" was then opened by Mr. Littlefield, of Charlestown, who said there seems to be some extra trouble with the health of the rising generation, and it is charged that it is due to the fact that children are overworked; and he said he could not understand why this charge should be made, when the hours of study have been shortened, and more frequent and longer vacations given; when there are better school-houses, better methods, better instruction, ventilation, furniture, supervision, text-books; and when, in short, everything connected with school is better.

Among the causes he enumerated, which tend to debilitate the health of children, are the excitement of city life, the absence of proper dress and stimulating and nourishing food, and the poisonous gases which are breathed by children from various sources. If these causes of ill health can be reformed, there will be a wide margin for keeping good health, which there is not now.

M. C. Stebbins, of Springfield, thought a great part of the alleged overwork was only over-worry. The pupils should work from the right stimulus. He thought there were too many outside demands upon young ladies in the public schools, and their reserve was all that was devoted to school work. Owing to the application of a kind of driving power, in place of the proper and natural stimulus, the incentives to study were not right, and a remedy was necessary here, by allowing the pupil opportunity for a more voluntary action in study, by allowing more time for preparation in studies. More progress could be made with less "overwork" or "worry" in this way.

Major William T. Harlow, of Worcester, thought if the present requirements of time devoted to study, only five hours per day, comprising less than half of the fifty-two full weeks of the year, after deducting the vacations, could not be borne by the scholars of the present day, with all the physiological enlightenment we now possess in regard to the laws of health and mental and physical action, these pupils, male or female, had better be sent to the hospital for sanitary treatment.

Other speakers made brief remarks relative to the subject, and after a recess of five minutes, a discussion was introduced by Prof. C. O. Thompson, of Worcester: "How far should natural history and the physical sciences be studied in our Grammar Schools?"

He spoke at first upon technical schools, which he said would not, as he thought, ever be founded for the co-education of the sexes. The persons who have studied this subject attentively and thoroughly, and who have weighed all the arguments on both sides with reference to making the best disposition of their money, have decided that the separate woman's college is the best for the highest education of women. The process now going on is isolation of the sexes in education. The grammar school is the school where five sixths of the boys and two thirds of the girls finish their education.

All agree that it is desirable that all scholars should be kept in school beyond the period when they will get through the grammar school. The ex-

perience of those men and women who have examined boys and girls for admission to the higher institutions is, that the preparation of these young persons in the grammar school is lamentably inefficient, and has for the past five years been growing worse rather than better. To teach the physical sciences the teacher should be well qualified to teach them, and this qualification but few possess. Without two conditions, physical sciences should be ruled out of the grammar school. The conditions are, that the studies should not be taken up unless there be enough apparatus to afford a convenient and effective illustration of the subject, and unless there is intelligence enough on the part of the pupils to understand the processes by which these laws are established. The boys and girls in our grammar schools are not sufficiently mature, and have not sufficient intelligence and discipline of mind to comprehend the processes by which physical sciences are established, and the apparatus is too expensive also. Natural history sciences, however, should be taught in the grammar schools, as these sciences can be taught and acquired by means of the study of natural objects, which can readily be procured. It is a lesson of facts, and not a close study of processes.

Mr. H. F. Harrington, of New Bedford, said that in these days, when newspapers contain the reflection of the very best minds in the world, enough applied science should be taught in schools to give the pupils at least an inkling or an idea of what the pages of the newspapers contain, so they will know what the subjects so often mentioned mean. He said he considered the experiment on the platform just as much a visible fact as the stone in the hand is a visible fact. The discussion was closed after brief remarks by others.

Closing Business.

The Committee on Resolutions presented a list of resolutions congratulating the officers upon the favorable circumstances under which the Association has met, and the success of the gathering, and expressing the hearty thanks of the Association to the Mayor of Worcester for his generous welcome; to the School Committee of the city, for opening the doors of the High School building; to the Superintendent of the Schools, for his unwearied exertions in preparing the way for the coming of the Association, and rendering the stay of the members so agreeable; to the editors of one hundred and four Massachusetts papers, who have freely called the attention of the teachers of the Commonwealth to the meetings of the Association; to the railroads, which have uniformly sanctioned the issue of free return tickets to members of the Association; to the hotels of Worcester for the reduction of their rates, and to the ladies and gentlemen who have promoted the interests of the Association. This closed the annual meeting, which, after the members had sung "America," adjourned.

"A GRAND EDUCATIONAL PARADOX."

A writer in the last number of the "Teacher," who discusses some of the educational problems of the present, and in the course of his essay does me the honor to quote a passage from a recently published address of mine,* though unable to determine very definitely what it means, is disposed, on the whole, to find in it nothing but a "grand educational paradox," and a doctrine quite at war with the latest and best results of German and other educational experience. The doctrine which so puzzles and confounds him was briefly this: that in planning a liberal education, whatever enters into our conception of its higher stage, should have its seed planted in our elementary schools. My critic is disturbed at the logical result of this doctrine.

* The Liberal Education of the Nineteenth Century. New York: D. Appleton & Co.

"Would not the drift of the quoted paragraph," he asks, "warrant the inference that every school, from the primary upward, should be a university; 'childish,' it may be, but still a university?" And he is alarmed at the prospect of work which such a plan is likely to impose on teacher and pupil, and seriously afraid that the idea smacks too much of the golden age and the millennium.

Nevertheless, I answer his question very composedly in the affirmative. The primary school *should* be the child's university; the grammar school should be the university of that great mass of boys and girls whose education will never be carried further. In like manner the high school should be a university, but *not* in the sense of being a place where young men and young women acquire such a wonderful grasp of superficial misinformation on such a wonderful variety of subjects as I fear they sometimes do now. The question whether my doctrine is a mischievous paradox, that will aggravate, if it have any influence, the tendency already strong enough towards making our schools instruments for the spread of superficial sciolism and a half-understood smattering of learning, destructive alike to intellectual and physical health, or whether it tends in the direction of making instruction sounder, and school discipline more wholesome, depends altogether upon the meaning we give to the words "a child's university."

Now the mistake my critic makes in respect to my meaning is just the error which vitiates, to a greater or less degree, a great deal of our elementary teaching. It is the error of supposing that the processes of elementary instruction are the same in little which the processes of higher instruction are on a large scale,—the error of supposing that a child's school-book is an adult's school-book cut down; that the child's proper dress is grandfather's coat made smaller. My critic, therefore, conjures up before his mind's eye all the paraphernalia of a college, and tries to reduce it to the dimensions of a primary school; "teachers," for instance, "severally devoted to a specialty, and who can bring to their teaching the culture harvested from many years of concentrated and laborious research." Certainly we shall have to wait for the millennium before we find such teachers in our primary schools; but is not this bringing rather heavy guns to bear upon a position which, perhaps, can be taken more easily? I will try to give my conception of a "child's university," and I think it will be found to be not such a very formidable affair after all. And to do so I will draw upon some of the recollections of my past experience as member of school committees.

I was once in charge of a large primary school of Irish children, which had been the opprobrium of the town, until a woman of superior intellect and ability entered it. I found her teaching the three Rs very successfully, — so successfully, in fact, that the school, which had been the worst in this respect, had grown to be the best in the town; but I found her by no means confining herself to the inculcation of the three Rs. In the first place, she had taken the children and *cleaned* them; and then, with an occasional vigorous application of the rod, — for, though exceedingly disliking corporal punishment, she by no means belonged, or indeed, in her position, could well belong, to the teetotal anti-corporal-punishment party, — she brought the school into a thoroughly good state of order and discipline. She would by no means allow dirty hands and faces, or torn clothes, or filthy ways, or rude behavior. In other words, she had vigorously undertaken the practical teaching of morals, manners, and government, the germs and rudiments of ethical and political science, though I did not see any treatises on that subject lying about. She had gone so far in the direction of ethical teaching, that, though a Protestant of the most liberal sect, she had established such a character among the Catholic parents of her charge that they earnestly co-oporated with her, implicitly obeyed her directions, and themselves brought their children back to school when they played truant. I never undertook to examine these children on Mill's Utilitarianism or Wayland's Moral Science "abridged," and am sure I could not have produced any results that way; but I am none the

less sure that the rudiments of ethical science were taught very efficiently in that school.

But she went much further. I noticed that the windows were full of flowers, and I once happened in upon a lesson of flowers. It was not given out of Dr. Gray's larger Botany, and by no means resembled the learned professor's prelections at Harvard College. If it had it would have been as bad of its kind as his are admirable, because it would have been wholly out of place. There is a wheel to a watch and a wheel to a mill, but you can't just use one for the other; neither is one the other "cut down." My friend's lessons were perhaps not on "botany" at all; I rather think they were on trees and flowers, matters with which botany, as sometimes taught in school, has very little to do, it being mainly concerned with sundry uncouth Greek and Latin words. But I go so far as to say that the seeds of what might afterwards grow into a taste for and knowledge of one branch of natural science were being planted there more successfully than if the children had been ever so much drilled on "monandria," "dioecious," "exogenous," and all the rest of it. In fact, they were beginning where Linnæus and Dr. Gray had to begin. Now, inasmuch as it was teaching both ethical and natural science, I maintain that so far that Irish primary school was a child's university.

I think it quite possible that they were learning physical science — had been shown, for instance, what made the water come in the pump, and for aught I know there was some young Watt or Newton in that school, who would presently begin to ponder upon falling apples and tea-kettle spouts. At any rate, if there was one, I am sure it was the way to make him ponder; and cramming him prematurely with "treatises" was not the way.

Again, the children were learning poetry by heart. Observe I say "learning by heart," not "committing to memory," which is a different process. I do not think it was Paradise Lost; and, whatever it was, I am very sure they were not *parsing* it, but learning it. Very likely it was one of Mary Howitt's little poems about birds and flowers, or possibly an Irish national song or an Irish ballad. At any rate, it was something they *could* "learn by heart." Furthermore she read stories to them — very simple matters, say Robinson Crusoe or Pilgrim's Progress. At any rate, it was literature, and so I call the school a literary institution, and fancy that some of the children might not only have been taught how to read, but what is less thought of — taught how to use that art for good and not bad purposes. "Do not," said a lady once to me when I was criticising a certain teacher, "do not laugh at his peculiarities. He taught me to love and appreciate English poetry, and it has been a treasure and delight to me all my life." Was not that being, as teachers go, rather a successful teacher? Is it the outcome of *all* school teaching of "compendiums" of literature now?

I asked her how she found time to do anything more than get up the children for examination in the spelling-book, arithmetic, Roman numerals, etc. She said the spelling-book and Roman numerals did not much embarrass her, provided she could inspire the children with *interest*. And, perhaps, that is an answer to my critic's difficulty about overcoming the "friction and inertia developed in dealing with average boys and girls." That there is a great deal of friction and inertia to be overcome, I would be the last to deny. I would go much further and say that many teachers have a wonderful faculty for developing both, so that schools may sometimes be seen whose whole force is expended in just overcoming them, — tread-mill schools, where it is "all action and no go." But those do not seem to me to be the ideally perfect schools. Neither schools nor other machinery are set up *for the purpose* of overcoming friction, any more than the final end of government is full state-prisons and plenty of work for the constabulary. That is the best government which is most willingly obeyed, and that is the best machine which works with least friction; and in school might not exciting interest be a good way of overcoming inertia? At least I wish it were tried oftener.

I think that if there is friction in the school — of the birch or otherwise —

it is quite as apt to be the teacher's as the pupil's fault. I was walking in a suburban town the other day just as the little urchins were let out of a primary school. "Pat," sung out one to another, who had apparently been playing truant, — small blame to him, — "your sister was licked to-day." I listened to a group as I walked along, "Yes, by ——," said one about as high as my knee, "she set us some words to write, and then she did nothing but lick us all the morning," and they proceeded to discuss sundry methods of retaliation. "*Emollit mores nec sinit esse feros*," I repeated to myself, and reflected on the perfection of our unsurpassable system of public education. I said it was perhaps the teacher's fault; call it rather the fault of the system; for I recalled to recollection the weary, jaded young women I had so often seen in stifling, unventilated rooms, trying to reduce order out of the chaos of a mob of fifty or sixty equally weary children, through the sole medium of the spelling-book and Roman numerals. I don't think it *can* be done, without a great deal of friction.

But it can be done; and I recall to mind an earlier experience where it was done quite successfully. Many years ago I was a visitor of a school where the teacher was a cast-iron school-ma'am of the old regime. She has been long gathered to her fathers; but for thirty years that grim woman wielded the ferule, and taught the spelling-book and the Roman numerals on the same spot. I believe she was an excellent woman — as faithful and conscientious in her rigid, narrow way as my other friend in her better one. She was set there to teach the three Rs, and she did it; and woe to the child who missed his Roman numerals, or whose "evil communications corrupt good manners" did not appear straight and clean on the copy-book. I do not think the children were unhappy, for she was a just woman, though she had a strong right arm; but her school was *not* a university. I think no inspiration went out of her. She taught the children faithfully how to use the tools of learning, but learning itself she did not and could not teach.

Now my paradox amounts to no more than this: the belief which I should be sorry to have to give up, that *very* slowly the type of teachers represented by my second example is being superseded by my first, in primary, grammar, and high schools. It is not so much the amount of knowledge our children are made to acquire that hurts them; for of sound, clear, wholesome knowledge, taken into and made a part of their very being, they acquire very little. It is bad *methods* of learning and teaching that do the mischief. If you set children down to studying, through the medium of dead types, a whole row of "treatises" on sciences and literatures, though they may be ever so much "abridged," you will kill them in the process of learning what wise teaching by better methods might teach them without their knowing that they were studying sciences, literatures, and ologies at all; and that, in my judgment, is the true method of *elementary* teaching. I want to see *work* in school, and that work punctually, faithfully, and most exactly performed; but I think we as greatly overrate in our school-teaching the power of the immature mind to perform work, as we underrate its power of imbibing knowledge by methods distinctly pleasurable. It is a relic of the grim traditions of Puritan days, — this banishing all pleasurable ideas from the school-room, this habit of dissociating ideas of study and of happiness, from one another. I admit that it is discouraging, uphill work, this of trying to awaken taste and love for intellectual exertion in masses of often very dull and unintellectual beings. I by no means suppose it will lighten the teacher's labors; but it will be labor worth doing, for it will call out her own highest faculties, and make teaching, what is now to many a conscientious and thoughtful teacher, a constant exercise in self-discipline and self-education; and it is in this sense that I shall continue to adhere to my paradox, that the very primary school should be the child's university, where the wise and thoughtful teacher will always deal with the little being under her charge as the "germ and embryo of all he is destined afterwards to become."

W. P. A.

Books.

ADDRESSES AND JOURNAL OF PROCEEDINGS OF THE NATIONAL EDUCATIONAL ASSOCIATION, SESSION OF THE YEAR 1873, at Elmira, New York. Published by the Association.

This volume contains two hundred and seventy-two pages of medium octavo size, bound in the same style as the previous volumes. It is to be hoped that it will have such a circulation among teachers as to render the association truly national in its influence. Of course, but a very small part of the teachers of the United States can attend its annual sessions; but for the small sum of $1.50 every teacher may avail himself of the best thoughts of the most distinguished educators of the country upon almost every question of educational interest, from the university to the primary school and kindergarten.

The papers of Dr. McCosh, President Eliot, etc., with the full reports of the discussions which followed their reading, will be found of especial value to all interested in the higher departments of education. It can be obtained by sending an order with money accompanying to S. H. White, chairman of the Publishing Committee, Peoria, Ill.

HOW TO TEACH. A Manual of Methods for a Graded Course of Instruction: Embracing the Subjects usually pursued in Primary, Intermediate, Grammar, and High Schools; also, Suggestions relative to Discipline and School Management. For the use of Teachers. By Henry Kiddle, Supt. of Public Instruction in New York; Thomas F. Harrison, Supt. of Grammar Schools, and N. A. Calkins, Supt. of Primary Schools. Published by J. W. Schermerhorn & Co.

This book ought to be in the hands of every primary and grammar school teacher. The authors have brought together the result of a long and successful experience, and made practical suggestions on methods of teaching all the ordinary branches of our common schools, that will be of incalculable value to any young teacher who is seeking for the best methods.

LIPPINCOTT'S MAGAZINE, for February, with its beautiful illustrations and its rich table of contents, is before us. "Josephine and Malmaison," by Marie Howland, and the first chapters of McDonald's "Malcolm," are among the most interesting, where all is good.

OLD AND NEW, for February, is a good number, containing several chapters from Trollope's "The Way We Live Now," chapters third and fourth from "Tom Haliburton's Quandary," an article on "Exercise," by the editor, and other excellent articles.

THE ELOCUTIONIST'S MANUAL, No. 2, comprising new and popular Readings, Recitations, Declamations, Dialogues, etc. Edited by J. W. Shoemaker. Published by J. W. Daughaday & Co., Philadelphia.

This little volume, of about two hundred pages, contains an interesting variety of selections suitable for social readings and for school exhibitions. It is the cheapest way of getting something fresh for such occasions, — the price of the book being but thirty-five cents.

OLIVER OPTIC'S MAGAZINE for February contains two chapters from "The Coming Wave," by Oliver Optic; two from Prof. James De Mille's new story, "The Lily and the Cross," and two from "The Story of a Tomboy," by George M. Baker. Then there are shorter articles, original dialogues, and other matters that will be puzzled over by young heads. Published by Lee & Shepard.

THE ATLANTIC MONTHLY for February is received, and is not only good, but especially so. To justify this statement, it is only necesary to say that it contains, among many other good things, "A Chapter of Autobiography," by Robert Dale Owen, an account of the "Anti-slavery Convention of 1833," by John G. Whittier, all of which he saw, and a part of which he was, — "A Ballad of the Boston Tea-Party," by Oliver Wendell Holmes, and "Recollections of Agassiz," by Theodore Lyman.

BOOKS RECEIVED.

THE ŒDIPUS TYRANNUS OF SOPHOCLES. Published by Ginn Brothers.

THE ANCIENT CITY: A study on the Religion, Laws, and Institutions of Greece and Rome, By Fustel De Coulanges. Translated by Willard Small. Published by Lee, Shepard & Co.

We had intended to notice this book in the present number; but have become so much interested in reading it, that we have not found time. We shall have more to say of it hereafter.